

# BOTANICAL GAZETTE

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## The Botanical Institute at Tübingen.

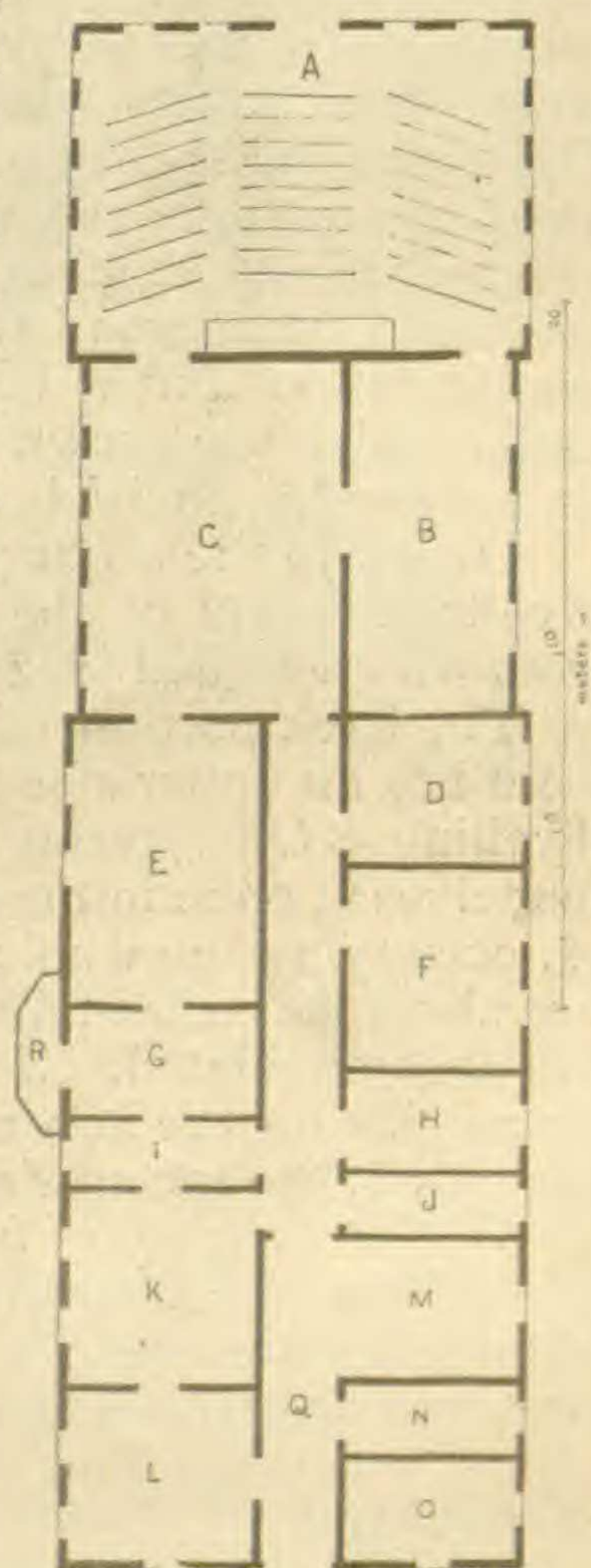
DOUGLAS H. CAMPBELL.

(WITH PORTRAIT.)

Before describing the laboratory itself it will be well, perhaps, to say a word or two about the place where it is situated. Tübingen is a quiet little south-German town of some twelve thousand inhabitants, but so compactly built that it does not cover more ground than an American village of a quarter its size. Quaint, high-gabled houses, sometimes seven or eight stories high, the upper ones usually projecting somewhat beyond the lower, and standing close together with no yards, give the place an air totally different from anything to which American eyes are accustomed. On the outskirts of the town, it is true, more modern ideas prevail, and the places look more like those to which we are accustomed.

Tübingen lies in Würtemberg, about twenty miles south of Stuttgart, on the Neckar. The scenery in all directions is charming, and makes it an uncommonly pleasant place for a summer's stay.

The university is very old, but the old buildings are no longer used, being superseded by handsome modern structures in the extreme northern part of the town. The botanical institute with the adjoining garden lies in the immediate vicinity. The institute itself is an oblong, substantially built stone



Plan of the Botanical Institute, Tübingen.



building occupying a street corner. Two of the sides lie directly on the street; the others are included in the botanical garden. The garden is not very large but is very tastefully as well as judiciously laid out, so that the most is made of the space. At present it is looking its best, as the leaves of the trees are just fully unfolded and the early summer flowers are in full bloom. In addition, all the portable plants have been removed from the green-houses into the open air. A small stream, a branch of the Neckar, runs through the garden and adds much to its beauty. Besides the land plants there is a very fair collection of the commoner aquatics, which are planted in a circular pond divided by stone partitions into sections for the different plants. Such a pond is, of course, extremely convenient, as many sorts of algæ and other useful water plants can be constantly kept on hand. The green-houses are well stocked, and include a large and handsome palm-house, which, however, is new, and does not yet contain any specimens of great size. Besides this, there are three other good-sized houses, as well as one or two smaller ones, and a large number of frames of small-size under which are grown such plants as require protection yet do not need artificial heat.

Owing to the kindness of Prof. Pfeffer,<sup>1</sup> I am enabled to give the readers of the GAZETTE a plan of the laboratory from which a good idea of its arrangement can be had.

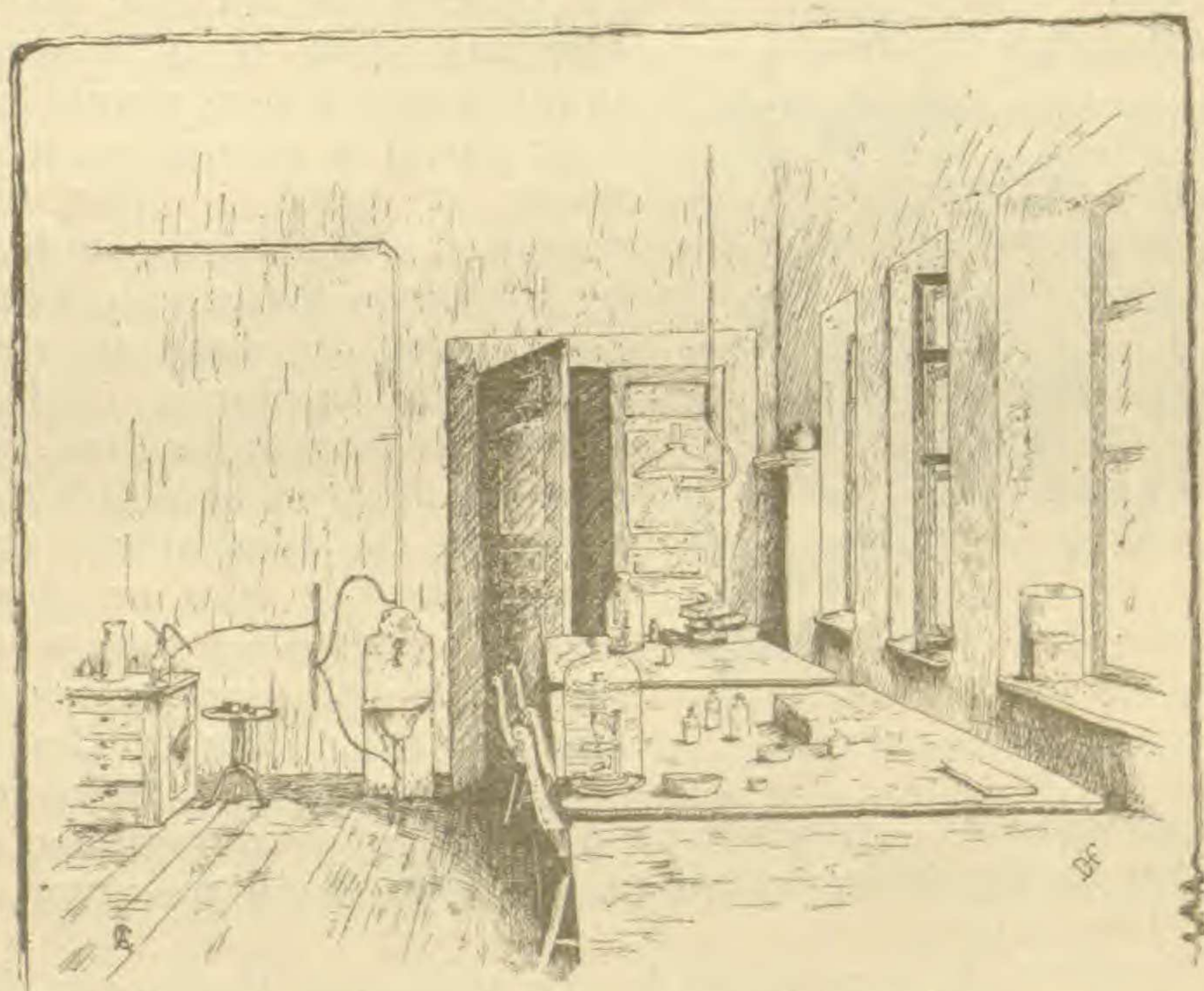
The back portion of the building is but one story; the front has an upper story, also occupied by the professor as a dwelling. On entering the building from the rear we find ourselves at once in the large and well-arranged lecture-room *A*, occupying the whole end of the building. In this room are also some work-tables where a portion of the beginners are accommodated. Some of the windows are fitted with broad sills for the accommodation of apparatus, etc., and at the end of the lecturer's table a water-pipe has been carried up so that a supply of fresh water is always at hand; indeed, one of the most striking features of the laboratory is the abundant water supply, all the rooms being provided with one, and sometimes two sinks. In addition, a plentiful supply of rain-water and distilled water is always kept in the work-rooms.

Following the lecture-room are the two large work-rooms *B* and *C*, of which the first is occupied by beginners and the larger by Dr. Klebs, the assistant, and the students who,

<sup>1</sup> Since this article was written, Drs. Pfeffer and Klebs have both accepted calls to other universities, the former to Leipzig and the latter to Basel; while Dr. H. Vöchting, formerly of Basel, is now at Tübingen.—Eds.]



like myself, are engaged in more advanced work. Tables containing drawers and provided with the necessary appliances for work are placed near the windows and against the walls, and in *C*, in the middle of the room as well, are cases and cupboards filled with all sorts of apparatus from a paper of pins to an electric clock. The more elaborate apparatus is mostly kept in room *B*, the space in the other room being



A CORNER IN THE LABORATORY.

mostly occupied by such simple apparatus as one ordinarily requires, especially glass and porcelain articles of every description.

The next room to the right, *E*, is also used by advanced students and contains most of the reference books ordinarily needed, although there is also a book-case in *C*. Between the windows in this room is a table built against the wall and free from the floor, so as to be as free from vibration as possible.

The room *F*, nearly opposite, is principally arranged for the study of bacteria, and is amply provided with all the paraphernalia connected with the investigation of these little but important organisms. Pfeffer is at present doing some work with bacteria and showed me a number of cultures he had preserved, these including some of the cholera and typhus



germs. It gives me a curious sensation to look at one of these little test-tubes half filled with a harmless-looking jelly, and to think what a tremendous amount of destruction is locked up in this same apparently innocent little vessel.

The print room, *O*, has its walls painted black, and is arranged so that all light can be excluded, and here experi-

ments are conducted that must be carried on in the dark. Opening from *G* is a small green-house where plants are kept that it is wished to have ready at hand. The two rooms, *L* and *K*, are occupied by Pfeffer as his private laboratory, and, of course, are very completely equipped. Here he spends most of his time, but does not forget that he has students in the laboratory, and usually makes two or three rounds a day to see how work progresses and give necessary help and suggestions. His invariable question, "*Haben Sie*

*'was gefunden?'*", grows a little monotonous sometimes, as one can hardly be expected to find something new two or three times a day.

The space *M* is occupied by the stair-case leading to the second floor, and the smaller rooms are devoted to the storing of apparatus and reagents that are not in constant use. The passage, *Q*, is lined with cases containing specimens of various kinds and also apparatus.

Everything is kept in the most perfect order under the able management of Johann, the factotum, who is always busy setting things to rights.

Pfeffer is assisted in the direction of the laboratory by Dr. Klebs. Hegelmaier, the assistant professor, has no work in the laboratory and I have seen very little of him.

I believe the laboratory was founded by Von Mohl, who was professor here for many years, and the botanical faculty also boasts of having had Hofmeister here for some time. With such men as these it is no wonder that it holds its present high rank, and the present incumbent is no unworthy successor of his illustrious predecessors.

*Tübingen, Germany.*



IN THE GARDEN.